

Project Title _____

Date _____

Storage Gas

1. Recovery Efficiency/AFUE _____ unitless From manufacturer's literature or appliance database
2. Average Hourly Pipe Heat Loss _____ kBtu/hr From Pipe Heat Loss Worksheet below, line 8
3. Rated Input _____ kBtu/hr From manufacturer's literature or appliance database
4. Effective AFUE _____ unitless Line 1 - (Line 2 ÷ Line 3)

Storage Electric

1. Average Hourly Pipe Heat Loss _____ kBtu/hr From Pipe Heat Loss Worksheet below, line 8
2. Rated Input _____ kW From manufacturer's literature or appliance database
3. Pump Watts _____ watt From manufacturers literature
4. Term A _____ unitless $1 - [\text{Line 1} \div (3.413 \times \text{Line 2})]$
5. Term B _____ unitless $1 + [\text{Line 3} \div (1000 \times \text{Line 2})]$
6. Effective HSPF (no fan) _____ Btu/watt $3.413 \times (\text{Line 4} \div \text{Line 5})$
7. Effective HSPF (with fan) _____ Btu/watt $1.017 \div [(1 \div \text{Line 6}) + 0.005]$

Heat Pump

1. Energy Factor _____ unitless From manufacturer's literature or appliance database
2. Average Hourly Pipe Heat Loss _____ kBtu/hr From Pipe Heat Loss Worksheet below, line 8
3. Rated Input _____ kW From manufacturer's literature or appliance database
4. Recovery Efficiency _____ unitless $1 \div [(1 \div \text{Line 1}) - 0.1175]$
5. Climate Zone Adjustment _____ unitless From table below
6. Effective HSPF (no fan) _____ Btu/watt $3.413 \times [(\text{Line 4} \div \text{Line 5}) - \text{Line 2} \div (3.413 \times \text{Line 3})]$
7. Effective HSPF (with fan) _____ Btu/watt $1.017 \div [(1 \div \text{Line 6}) + 0.005]$

Climate Zone Adjustment

Climate Zone	Adjustment
1, 14	1.04
2, 3	0.99
4, 5, 12	1.07
6-11, 13, 15	0.92
16	1.50

Pipe Heat Loss Rate Table

Pipe Nominal Diameter (inches)	Insulation Thickness (inches)		
	0.5	0.75	1.0
0.50	71.6	60.9	54.2
0.75	91.1	75.8	66.6
1.00	109.9	90.1	78.8
1.50	146.7	117.5	100.3
2.00	182.9	144.3	121.7

Pipe Heat Loss Worksheet

(Complete this section when more than 10 feet of pipe is in unconditioned space.)

1. Description of Pipe Size and Insulation Condition	2. Pipe Heat Loss Rate (kBtu/yr·ft) ¹	3. Pipe Length (ft)	4. Total Pipe Heat Loss	Average Hourly Pipe Heat Loss (kBtu/hr)
_____	_____	× _____	= _____	
_____	_____	× _____	= _____	
_____	_____	× _____	= _____	
_____	_____	× _____	= _____	
_____	_____	× _____	= _____	
8. Average Hourly Pipe Loss = (line 8b/8760) = _____				

1. From Pipe Heat Loss Rate Table.